Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	14 October 2022
Team ID	PNT2022TMID30150
Project Name	VIRTUAL EYE - LIFE GUARD FOR SWIMMING POOLS TO DETECT ACTIVE DROWNING
Maximum Marks	4 Marks

Technical Architecture:

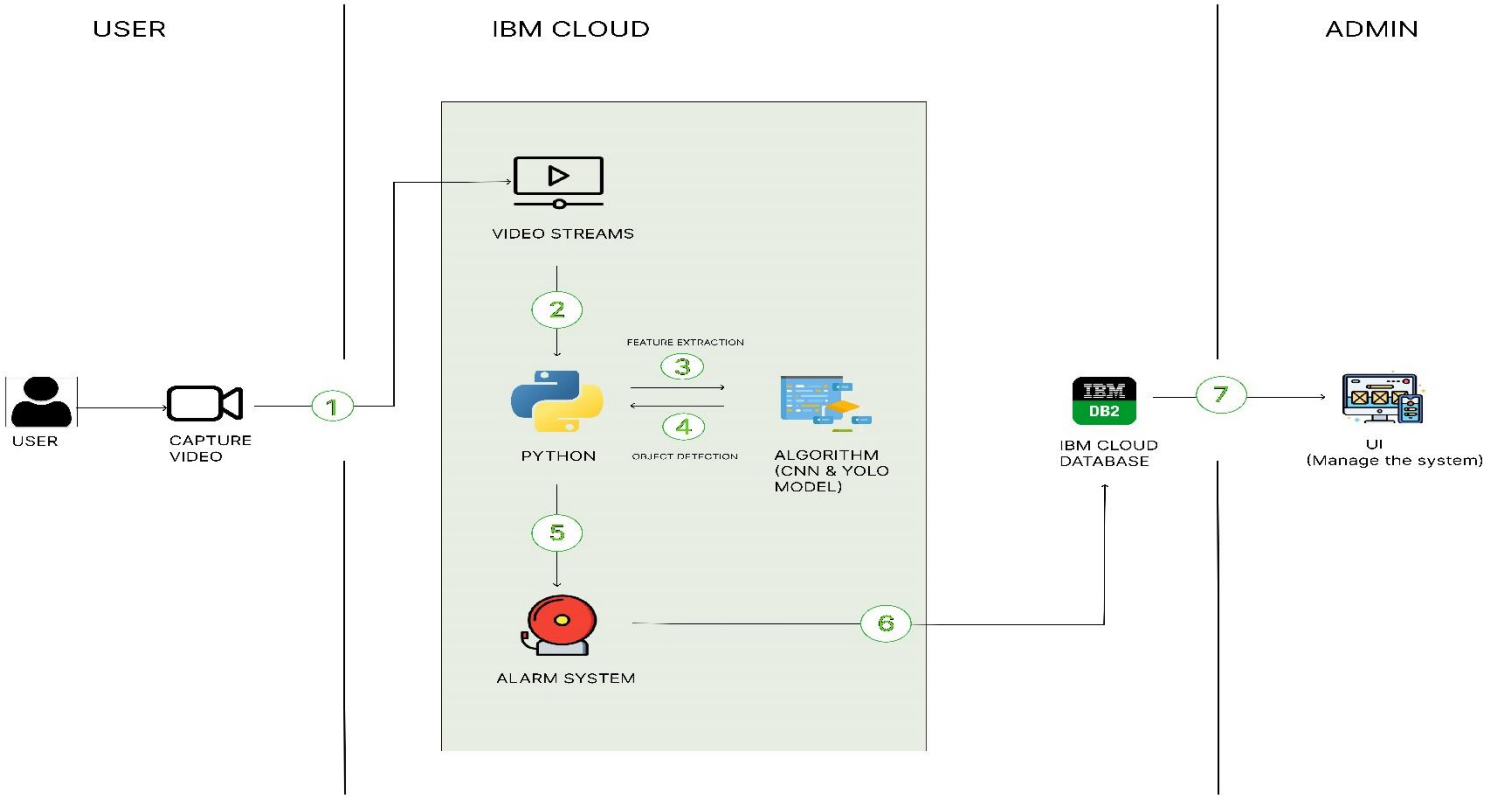

Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	How user interacts with application	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Pre-processing the model using datasets	Python
3.	Application Logic-2	Image extraction	Python
4.	Application Logic-3	Object detection	python
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	Deep Learning Model	Purpose of Deep Learning Model	Object Recognition Model, CNN etc. YOLOv7 model
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration:	Local, Cloud Foundry ,Kubernetes etc.,

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask, caffe	python
2.	Security Implementations	MAC access control is used	e.g., Encryption
3.	Scalable Architecture	3 – tier Architecture	Web Server – HTML, CSS, JS Application Server – Python Database Server – IBM DB2
4.	Availability	Use of Load Balancing to distribute network traffic across servers	IBM Load Balancer
5.	Performance	Design Consideration for the performance of the application	IBM Content Delivery Network